

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 04-127700

(43)Date of publication of application : 28.04.1992

(51)Int.Cl.

H04S 5/02

H04S 1/00

(21)Application number : 02-249432

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(22)Date of filing : 18.09.1990

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## (54) IMAGE CONTROLLER

### (57)Abstract:

**PURPOSE:** To control the sense of a distance as well together with the sense of a direction by controlling the extending time of plural extending devices so that the reproduced sounds of all the loudspeakers can arrive at a normal image position at the same time.

**CONSTITUTION:** Based on the coordinates of a point (p) and the coordinate of loudspeakers 108-111 decided in advance, an extending time controller 102 calculates the extending time of extending devices 104-107. Then, the extending time of the extending devices 104-107 is controlled so that the sounds of all the loudspeakers 108-111 can arrive at the point (p) at the same time.

Under the control of the extending time controller 102, the reproduced sounds of all the loudspeakers 108-111 arrive at the normal image position (p) at the same time. Then, extremely high sound pressure can be obtained at the point (p) by the in-phase addition of the sounds from all the loudspeakers 108-111. On the other hand, the so much higher sound pressure can not be obtained in a space excepting for the point (p) since the sounds from the respective loudspeakers are added with random phases. Thus, a listener receives an impression just like radiating sounds from the point (p), and the sense of a distance can be controlled as well as the sense of a direction.

